USAMC LOGSA Brief to IADS User Conference IETM Functionality Matrix

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ESSENTIAL IN PEACE, INDISPENSABLE IN WAR

Background

- **Introduction of Interactive Electronic Technical Manuals (IETMs) has introduced a paradigm shift from the page-based approach to determining technical documentation costs.**
  - **IETMs require new costing methodologies not tied to page output.**

- **Acquisition managers and IETM sponsors within DOD need to be cognizant of the level of IETM functionality required to support their warfighter, when specifying the type of IETM or related technical documentation to operate and maintain the systems and equipment they use in the field.**

Background (Cont.)

- **Aerospace Industries Association (AIA) chartered the IETM Pricing Group to develop methods to estimate costs for various levels of Interactive Electronic Technical Manuals (IETMs) for guiding DOD Logistic Element Managers (LEMs).**

- **Several meetings chaired by NAVAIR, with participation from Major Defense Contractors, resulted in development of:**
  - **AIA IETM Matrix**
  - **IETM Functional Definitions**
  - **Standard Statements of Work (SOW) templates**
  - **Contract Data Requirements Lists (CDRL) templates**
  - **Technical Manual Contract Requirements (TMCR) template**

AIA Functionality Matrix History

- AIA and the Joint Aviation Logistics Board (JALB) established a joint working group in July 1998 to establish a pricing methodology for the acquisition of (new) IETM.
- Over the period October 1998 through May 2000, the industry/DOD group developed IETM acquisition guidance, cost benefit analysis tools and a web site repository of IETM pricing information.
- Work group officially closed out on 19 July 2000.
- A valuable tool arising from this effort was an IETM functionality matrix intended to aid IETM acquisition managers in specifying the level of functionality required for warfighter support.

IETM Terminology

- **Current practice of specifying costs in terms of pages, or using the unofficial IETM Class I through Class V designations is inappropriate for the rapidly changing technology associated with IETM authoring and presentation systems.**

- **Broad use of IETM Class terminology leads to inconsistent interpretations, which often differ between the acquisition manager and IETM developer.**

- **IETMs embody a combination of technical data and software viewer technology, which often include additional applications to augment training and troubleshooting of complex weapon systems.**

IETM Acquisition Approach

- The Aerospace Industries Association (AIA), comprised of Industry representatives and DOD, developed a practical tool to guide acquisition managers in the IETM selection process.

- The IETM Functionality Matrix was designed to help:
  - specify features, capabilities and level of technical support required for the warfighter.
  - the acquisition manager in communicating technical requirements based on specific needs.

IETM Functionality Matrix

The Goal of Using the Matrix Is To:

1. **Lower IETM acquisition costs.**
2. **Create less ambiguity in assessing industry's proposals in providing IETMs to DOD.**
3. **Standardize the way IETMs are defined.**
4. **Ensure a comprehensive set of requirements is used to define IETM capabilities early on.**
5. **Provide a measure of relative complexity for each IETM function, which is useful in identifying cost drivers when the acquisition costs appear excessive.**

IETM Functionality Matrix Efforts

- **Through AIA, the industry and DOD team have created these resources:**
  - **Functionality Matrix**
  - **Electronic Technical Manual Pricing Handbook**
    - **To be presented at the Spring 2003 AIA/DoD IETM Conference.**

- **Tri-Service/Army participation and endorsement of on-going matrix efforts.**
  - **Army position paper developed thru the IETM SMEC**
  - **Continued review and analysis by Army**

Obstacles to DOD Adopting AIA's IETM Matrix Approach

- **IETM requirements already specified in Technical Manual Contract Requirements (TMCRs) and other DOD specifications.**
- **IETM Technology is rapidly changing.**
- **Handbook and Matrix not yet approved by DOD**
  - **BUT will be included in MIL-STD 40051C**
    - **Modified format**
    - **As an acquisition tool**

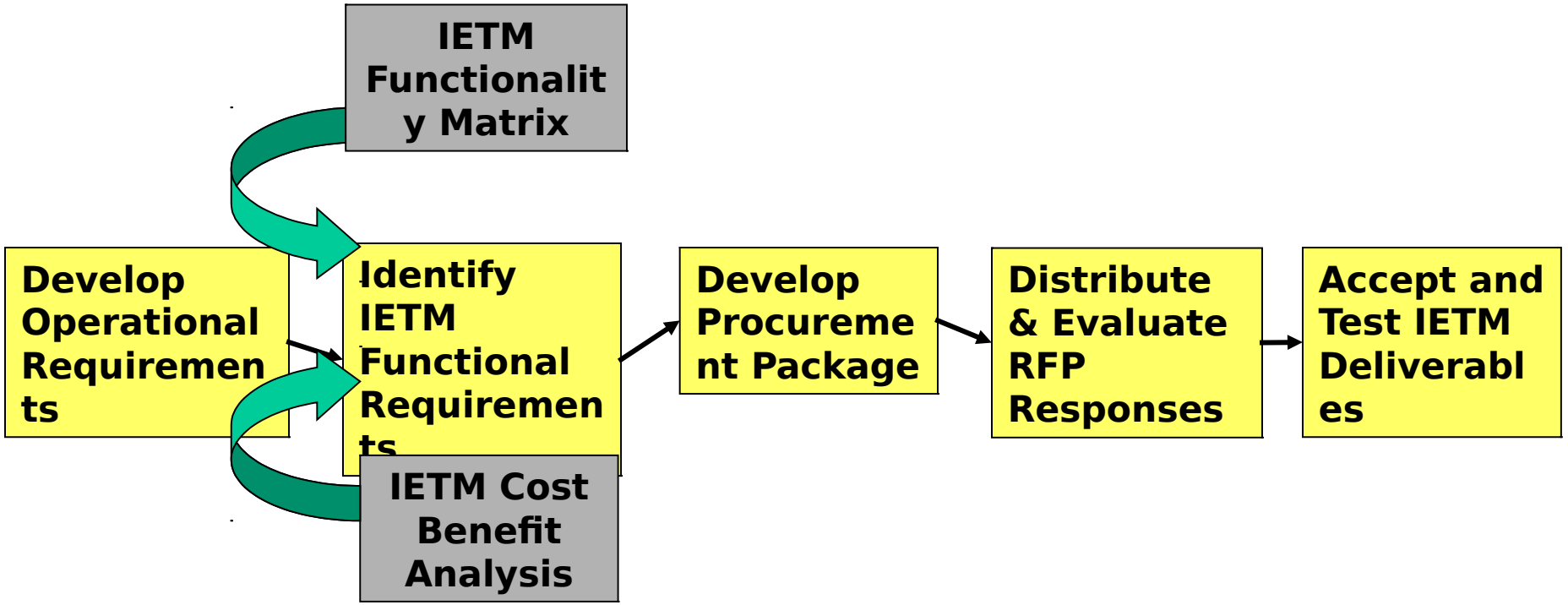
Example of How to Use Matrix

Notional Approach

AIA Reference Material

- **Use AIA IETM Matrix 'Type of Data' to determine IETM information requirements, along with:**
  - **Maintenance Philosophy (needs to be compatible with level of detail)**
  - **Inputs from Training Command (need to be considered)**
  - **Legacy TMs (if available, should be used as a guide)**
- **Use AIA IETM Matrix 'Complexity Factor' to determine level of IETM functionality required for user:**
  - **Review Definitions of Features/Functions to determine actual need**
  - **Remember, higher complexity numbers may = more dollars**
  - **Higher Investment may be offset by higher Life Cycle savings**
  - **Do tradeoffs on Life Cycle costs to determine pay back opportunity**
- **Use AIA templates for SOWs, TMCRs, CDRLs to tailor Bid Package.**
  - **AIA Web Site will store templates for re-use**
  - **Templates encourage standardization across DOD Services**

How To Use Aerospace Industry's Association IETM Matrix



Functionality Matrix Definitions Summary Of Categories

- **Navigation and Tracking - ETMs exhibit a number of different navigation methods that enable linear and nonlinear access through the data. Features such as:**
  - **“Next” and “Back”**
  - **Search**
  - **Use of bookmarks**
  - **Dialog driven interaction**
  - **Voice activated commands**
  - **Filtering techniques**
- **Linking - ETM linking functionality is defined as essentially link access or connections to the data within the ETM such as from the table of contents to the applicable ETM section or to external resources such as material handling information.**

Functionality Matrix Definitions Summary Of Categories

- **Updates - ETMs support a number of different update methodologies that significantly affect the costs of sustainment and include revisions, changes, urgent changes and change markings or indications.**
- **Graphics - Various levels of graphics display, interactivity, and navigation can be implemented through ETMs. Examples of these functionalities include:**
  - **Point and click on a locator graphic**
  - **Links to textual or tabular information**
  - **Highlighting specific connections in a circuit**
  - **System simulation expressed graphically**
  - **Full 3D models that can be rotated with parts removed**

Functionality Matrix Definitions Summary Of Categories

- **Diagnostics and Prognostics - ETM diagnostics and prognostics can be a significant benefit in reducing maintenance times and total ownership costs; however, they can also be a sizable cost driver in ETM development.**
  - **Diagnostics span from basic standalone troubleshooting procedures to integration with the weapon system and other maintenance systems.**
  - **Prognostics may include health monitoring and linkage to autonomic logistics systems.**
- **Printing - ETMs by their nature are intended for use in an online environment, with print functionality limited primarily to task oriented and screen print output. By defining a hard copy output that more closely resembles a paper technical manual, the resulting costs and complexity rise.**

Functionality Matrix Definitions Summary Of Categories

- **Delivery and Distribution - Selection of the desired ETM media will drive costs; however, the most significant consideration is the readiness of the infrastructure at the user level for whatever media is acquired.**
- **Access – The ability to allow or restrict users to view specific ETM data.**
- **External Processes - The ETM environment has the potential to provide greater functionality by interacting with external processes to retrieve and transmit information.**
- **Special Content - The inclusion of additional data types such as**
  - **Audio**
  - **Motion video**
  - **Animations**

LOGSA IETM Point-of-Contact

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